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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: TOD PAULUS ET AL.

Filed:

FEBRUARY 12, 2002

For:

NOTCH FILTER FOR DC OFFSET REDUCTION IN RADIO-FREQUENCY APPARATUS AND ASSOCIATED METHODS

Serial No.:

10/075,099

Group Art Unit:

2684

Examiner:

LEE, J.

Arty Docket No.:

SILA:097

Pursuant to 37 C.F.R. 1.8, I certify that this correspondence is being deposited with the U.S. Postal Service in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313 on the date

Date

Name

Commissioner for Patents P. O. Box 1450 Alexandria, VA 22313

SUBMISSION OF INFORMATION DISCLOSURE STATEMENT PURSUANT TO OFFICE ACTION DATED DECEMBER 1, 2004

Sir:

In response to the Office Action dated December 1, 2004, Applicant hereby submits a substitute Information Disclosure Statement including copies of references A1-A51, B1-B6, and C1-91.

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, it is respectfully requested that this Supplemental Information Disclosure Statement be entered and the document(s) listed on attached Form PTO-1449 be considered by the Examiner and made of record.

Commissioner for Patents Page 2

In accordance with 37 C.F.R §§ 1.97(g),(h), this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

Respectfully submitted,

Maximilian R. Peterson Registration No. 46,469 Attorney for Applicant

O'KEEFE, EGAN & PETERMAN, L.L.P. 1101 Capital of Texas Highway South Building C, Suite 200 Austin, Texas 78746 512-347-1611 512-347-1615 (Fax)



Received in the U.S. Patent and Trademark Office: In re Application of: Tod Paulus et al.

Notch Filter For DC Offset Reduction In Radio-Frequency Apparatus and Associated Methods Serial No. 10/075,099; Filed: 2/12/02

Enclosed herewith:

- Information Disclosure Statement
- 2. PTO Form 1449
- 3. Cited references A1-A48; B1-B6 and C1-C91
- Our return postcard.

SILICON LABORATORIES, INC. - SILA:097 Mailed: 11-25-02 MRP/mb

Received in the U.S. Patent and Trademark Office: Notch Filter For DC Offset Reduction In Radio-Frequency In re Application of: Tod Paulus et al. Apparatus and Associated Methods Serial No. 10/075,099; Filed: 2/12/02

Enclosed herewith:

1. Information Disclosure Statement 2. PTO Form 1449
3. Cited references A1-A48; B1-B6 and C1-C91 (Copus rot)
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NOTCH FILTER FOR DC OFFSET REDUCTION IN RADIO-

FREQUENCY APPARATUS AND ASSOCIATED METHODS

Serial No.:

10/079,099

Group Art Unit:

2681

Examiner:

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Atty Dkt:

SILA:097

Pursuant to 37 C.F.R. 1.8, I certify that this correspondence is being deposited with the U.S. Postal Service in a first class, postage prepaid envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on the date below:

11-0502

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INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents Washington, D.C. 20231

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, it is respectfully requested that this Information Disclosure Statement be entered and the document(s) listed on attached Form PTO-1449 be considered by the Examiner and made of record.

In accordance with 37 C.F.R §§ 1.97(g),(h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in acceptance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is hereby authorized to deduct said fees from Deposit Account No. 10-1205/SILA:097.

Per 37 CFR 1.98(d), no copies of references A1-A48, B1-B6 and C1-91 have been provided, as copies of these references have been previously submitted to the Office in one or more of co-pending U.S. Patent Application Serial Nos. 09/821,340 filed on March 29, 2001, which is entitled "Digital Interface In Radio-Frequency Apparatus And Associated Methods" and 09/821,342 filed on March 29, 2001, which is entitled "Partitioned Radio-Frequency Apparatus And Associated Methods" and which is relied upon by the present application for an earlier effective filing date under 35 U.S.C. Section 120.

Applicant respectfully requests that the listed document(s) be made of record in the present case.

Respectfully submitted,

Maximilian R. Peterson

Reg. No. 46,469

Attorney for Applicant

O'KEEFE, EGAN & PETERMAN, LLP 1101 Capital of Texas Highway South Building C, Suite 200 Austin, Texas 78746 (512) 347-1611 FAX: (512) 347-1615

Enclosures

rm PTO-1449 (modified)

List of Patents and Publications for Applicant's

Atty. Docket No. SILA:097

Serial No. 10/075,099

Applicants

TOD PAULUS ET AL.

Information Disclosure Statement

(Use several sheets if necessary)

Filing Date: 2/12/02

Group: 2681

U.S. Patent Documents
See Pages 1-3

Foreign Patent Documents
See Pages 3

Other Art See Pages 3-10

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date if App.
	A1	5,828,955	10/27/98	Lipowski et al.	·		8/30/95
	· A2	6,035,186	3/7/00	Moore et al.		·	3/11/97
	A3	6,075,979	6/13/00	Holtvoeth et al.			3/5/97
	A4	5,764,171	6/9/98	Stikvoort			4/2/96
	A5	6,148,048	11/14/00	Kerth et al.			9/26/97
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	A7	4,070,632	1/24/78	Tuttle			9/22/76
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m PTO-1449 (modified)

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U.S. Patent Documents
See Pages 1-3

Foreign Patent Documents
See Pages 3

Other Art See Pages 3-10

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Page 3 of 10 Atty. Docket No. Serial No. PTO-1449 (modified) SILA:097 10/075,099 of Patents and Publications for Applicant's **Applicants** TOD PAULUS ET AL. **INFORMATION DISCLOSURE STATEMENT** Filing Date: Group: (Use several sheets if necessary) 2/12/02 2681 Foreign Patent Documents U.S. Patent Documents Other Art See Pages 1-3 See Pages 3 See Pages 3-10

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	B2	GB2233518A	1/9/91	Dedic			
	В3	0643477A2	3/15/95	Hulkko et al.			
	B4	WO 00/11794	3/2/00	Moore et al.		-	
	В5	WO 00/01074	1/6/00	Van Der Zwan et al.			
	В6	WO 99/22456	5/6/99	Grenabo			10/27/98

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	C1	Stephen Jantzi et al., "Quadrature Bandpass ΔΣ Modulation for Digital Radio," IEEE Journal of Solid-State Circuits, Vol. 32, No. 12, December 1997, pp. 1935-1950.			
	C2	Stephen Jantzi et al, "A Complex Bandpass ΔΣ Converter For Digital Radio," ISCAS, May/June 1994, pp. 453-456.			
·	C3	"Analog Devices Delivers World's First Open Market GSM Direct Conversion Radio Chipset," Analog Devices Corporate Information Press Release, http://contentanalog.com/pressrelease/prdisplay/0,1622,102,00.html, September 13, 1999, pp. 1-4.			

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Atty. Docket No.	Serial No.	
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Applicants		

TOD PAULUS ET AL.

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Filing Date: Group: 2/12/02 2681

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	C4	Data Sheet, CX74017, "RF Transceiver for Single, Dual, or Tri-Band GSM/GPRS Applications," Conexant, January 2, 2001, pp. 1-16.				
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	C6	Jan Crols et al., "Low-IF Topologies for High-Performance Analog Front Ends of Fully Integrated Receivers," IEEE Transactions on Circuits and Systems-II: Analog and Digital Signal Processing, Vol. 45, No. 3, March 1998, pp. 269-282.				
	C7	Jacques C. Rudell et al., "Recent Developments In High Integration Multi-Standard CMOS Transceiver for Personal Communication Systems," invited paper at the 1998 International Symposium on Low Power Electronics, Monterey, California, 6 pgs.				
	C8	Asad Abidi, "CMOS Wireless Transceivers: The New Wave," IEEE Communications Magazine, August 1999, pp. 119-124.				
	C9	Data Sheet, UAA3535HL, "Low Power GSM/DCS/PCS Multi-band Transceiver," Philips Semiconductors, February 17, 2000, pp. 1-24.				
	C10	Stephen Jantzi et al., "FP 13.5: A Quadrature Bandpass ΔΣ Modulator for Digital Radio," Digest of Technical Papers, 1997 IEEE International Solid-State Circuits Conference, First Edition, February 1997, pp. 216-217, 460.				
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	C12	Qiuting Huang, "CMOS RF Design-The Low Power Dimension," IEEE 2000 Custom Integrated Circuits Conference, pp. 161-166.				
	C13	Paolo Orsatti et al., "A 20-mA-Receive, 55-mA-Transmit, Single-Chip GSM Transceiver in 0.25-µm CMOS," IEEE Journal of Solid-State Circuits, Vol. 34, No. 12, December 1999, pp. 1869-1880.				
	C14	Qiuting Huang et al., "The Impact of Scaling Down to Deep Submicron on CMOS RF Circuits," IEEE Journal of Solid-State Circuits, Vol. 33, No. 7, July 1998, pp. 1023-1036.				
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Serial No. 10/075,099

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Applicants
TOD PAULUS ET AL.

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Filing Date: Group: 2/12/02 2681

U.S. Patent Documents
See Pages 1-3

Foreign Patent Documents
See Pages 3

Other Art See Pages 3-10

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	C16	Farbod Behbahani et al., "CMOS Mixers and Polyphase Filters for Large Image Rejection," IEEE Journal of Solid-State Circuits, Vol. 36, No. 6, June 2001, pp. 873-887.
	C17	Jan Crols et al., "A Single-Chip 900 MHz CMOS Receiver Front-End With A High Performance Low-IF Topolgy," IEEE Journal of Solid-State Circuits, Vol. 30, No. 12, December 1995, pp. 1483-1492.
	C18	Analog Devices, Single-Chip Direct-Conversion GSM/GPRS/EDGE RFIC, Othello One, www.analog.com, 2 pgs.
	C19	Analog Devices, AD6523/AD6524, GSM Direct Conversion Radio Chip Set, www.analog.com, 2 pgs.
	C20	Analog Devices, GSM 3 V Transceiver IF Subsystem, AD6432, www.analog.com, pp. 1-20.
	C21	Hitachi, "RF Transceiver IC For GSM And PCN Dual Band Cellular Systems," HD155121F, ADE-207-265(Z), 1st Edition, November 1998, pp. 1-56.
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	C26	Atkinson et al., "A Novel Approach To Direct Conversion RF Receivers For TDMA Applications," Analog Devices, 1999, pp. 1-5.
	C27	Crochiere et al., "Optimum FIR Digital Filter Implementations For Decimation, Interpolation, And Narrow-Band Filtering," IEEE Transactions On Acoustics, Speech, And Signal Processing, Vol. ASSP-23, No. 5, October 1975, pp. 444-456.
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List of Patents and Publications for Applicant's

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SILA:097

Applicants

TOD PAULUS ET AL.

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Filing Date: Group: 2/12/02 2681

U.S. Patent Documents
See Pages 1-3

Foreign Patent Documents
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	C31	D'Avella et al., "An Adaptive MLSE Receiver For TDMA Digital Mobile Radio," IEEE Journal On Selected Areas In Communications," Vol. 7, No.1, January 1989, pp. 122-129.
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	C35	Steyaert et al., "A 2-V CMOS Cellular Transceiver Front-End," IEEE Journal of Solid-State Circuits, Vol. 35, No. 12, December 2000, pp. 1895-1907.
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	C37	Analog Devices, "Analog Devices Delivers World's First Open Market GSM Direct Conversion Radio Chipset," November 1999, 4 pgs.
	C38	"Digest Of Technical Papers," 1997 IEEE International Solid-State Circuits Conference, First Edition, February 1997, 5 pgs.
	C39	RF Micro Devices, RF2968, Product Description, Blue Tooth Transceiver, Rev A19, pp. 11-199-11-222.
	C40	Texas Instruments, TRF6901, "Single Chip RF Transceiver," March 2002, pp. 1-29.
	C41	Texas Instruments, TRF6900A, "Single Chip RF Transceiver," September 2001, pp. 1-34.
	C42	Texas Instruments, TRF6900, "Single Chip RF Transceiver, October 1999, pp. 1-32.
	C43	Philips Semiconductor, "Bluetooth RF Transceiver," Data Sheet, UAA3558, December 21, 2000, pp. 1-5.
	C44	Philips Semiconductor, "Image Reject 1 800 MHz Transceiver For DECT Applications," Data Sheet, UAA2067G, October 22, 1996, pp. 1-24.

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20 m	Form PTO-1449 (modified)		Atty. Docket No.	Serial No.	
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	INFORMATION DISCLOSURE S	TATEMENT			
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	U.S. Patent Documents	Foreign F	Patent Documents	Other Art	
	See Pages 1-3	Se	ee Pages 3	See Pages 3-10	

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	C46	Philips Semiconductor, "900 MHz Analog Cordless Telephone IC," Data Sheet, UAA3515A, December 12, 2001, pp. 1-44.
	C47	Philips Semiconductor, "Low Voltage IF I/Q Transceiver," Data Sheet, SA1638, September 3, 1997, pp. 1-26.
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	C49	Fague, "Othello: A New Direct-Conversion Radio Chip Set Eliminates IF Stages," Analog Dialogue 33-10, 1999, pp. 1-3.
	C50	Analog Devices, AD6523/AD6524, "GSM Direct Conversion Radio Chip Set," 1999, 2 pgs.
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	C52	Lucent Technologies, "Lucent CSP1099 GSM Conversion Signal Processor For Cellular Handset And Modem Applications," Product Brief, February 2001, 2 pgs.
	C53	Lucent Technologies, "Trident," Product Brief, February 2001, 2 pgs.
	C54	Ericsson, "RF Transceiver Circuit For The Digital Enhanced Cordless Telecommunications (DECT) System," PBL40215, January 2001, pp. 1-22.
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	C59	Rael et al., "Design Methodology Used In A Single-Chip CMOS 900 MHz Spread-Spectrum Wireless Transceiver," 35th Design Automation Conference, June 1998, 6 pgs.
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Page 8 of 10 Atty. Docket No. Fm PTO-1449 (modified) Serial No. SILA:097 10/075,099 List of Patents and Publications for Applicant's **Applicants** TOD PAULUS ET AL. **INFORMATION DISCLOSURE STATEMENT** Filing Date: Group: (Use several sheets if necessary) 2/12/02 2681 Foreign Patent Documents U.S. Patent Documents Other Art See Pages 1-3 See Pages 3-10 See Pages 3

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	C61	Schreier et al., "Decimation For Bandpass Sigma-Delta Analog-To-Digital Conversion," IEEE, 1990, pp. 1801-1804.
	C62	Shoaei et al., "Optimal (Bandpass) Continuous-Time ΔΣ Modulator," pp. 489-492.
	C63	Schreier et al., "Bandpass Sigma-Delta Modulation," Electronics Letters, Vol. 25, no. 23, November 9, 1989, pp. 1560-1561.
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	C70	Thurston et al., "Bandpass Implementation Of The Sigma-Delta A-D Conversion Technique," International Conference On Analogue To Digital And Digital To Analogue Conversion, September 1991, 7 pgs.
	C71	Rudell, et al., "Second Generation Multi-Standard Monolithic CMOS RF Transceiver," University of California, Berkeley, Slides 1 through 9 (June 1996)
	C72	Cho, et al., "Multi-Standard Monolithic CMOS RF Transceiver," University of California, Berkeley, Slides 1 through 26 (June 1996)
	C73	Copending U.S. Patent Application Serial No. 09/821,342, filed March 29, 2001, "Partitioned Radio-Frequency Apparatus And Associated Method" (SilA:072)
	C74	Copending U.S. Patent Application Serial No. 09/821,340, filed March 29, 2001, "Digital Interface In Radio-Frequency Apparatus And Associated Methods" (SilA:073)

Examiner:	Date Considered:

Form PTO-1449 (modified)

Atty. Docket No. SILA:097

Serial No. 10/075,099

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TOD PAULUS ET AL.

INFORMATION DISCLOSURE STATEMENT

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Foreign Patent Documents

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U.S. Patent Documents
See Pages 1-3

See Pages 3

Other Art See Pages 3-10

Other Art (Including Author, Title, Date, Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C75	Copending U.S. Patent Application Serial No. 10/075,094, filed February 13, 2002, "Radio-Frequency Communication Apparatus And Associated Methods" (Sila:074)
	C76	Copending U.S. Patent Application Serial No. 10/075,098, filed February 13, 2002, "Apparatus And Methods For Generating Radio Frequencies In Communication Circuitry" (Sila:075)
	C77	Copending U.S. Patent Application Serial No. 10/075,122, filed February 12, 2002, "Digital Architecture For Radio-Frequency Apparatus And Associated Methods" (Sila:078)
	C78	Copending U.S. Patent Application Serial No. 10/083,633, filed February 26, 2002, "Apparatus And Methods For Calibrating Signal-Processing Circuitry" (Sila:080)
	. C79	Copending U.S. Patent Application Serial No. 10/081,121, filed February 22, 2002, "Calibrated Low-Noise Current And Voltage References And Associated Methods" (Sila:095)
	C80	Copending U.S. Patent Application Serial No. 10/074,591, filed February 13, 2002, "Apparatus For Generating Multiple Radio Frequencies In Communication Circuitry And Associated Methods" (Sila:096)
	C81	Copending U.S. Patent Application Serial No. 10/075,099, filed February 12, 2002, "Notch Filter For DC Offset Reduction In Radio-Frequency Apparatus And Associated Methods" (Sila:097)
	C82	Copending U.S. Patent Application Serial No. 10/074,676, filed February 12, 2002, "DC Offset Reduction In Radio-Frequency Apparatus And Associated Methods" (Sila:098)
	C83	Copending U.S. Patent Application Serial No. 10/079,058, filed February 19, 2002, "Apparatus And Methods For Output Buffer Circuitry With Constant Output Power In Radio-Frequency Circuitry" (Sila:099)
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	C86	Allen, "Complex Analog Filters Obtained From Shifted Lowpass Prototypes," September 1985, 118 pgs.

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Page 10 of 10 m PTO-1449 (modified) Atty. Docket No. Serial No. SILA:097 10/075,099 st of Patents and Publications for Applicant's **Applicants** TOD PAULUS ET AL. **INFORMATION DISCLOSURE STATEMENT** Filing Date: Group: (Use several sheets if necessary) 2/12/02 2681 U.S. Patent Documents **Foreign Patent Documents** Other Art See Pages 3-10 See Pages 1-3 See Pages 3

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	C87	Motorola Communications Semiconductor Product Division, "A 1.9 GHz Chipset For PCS Applications," Microwave Journal, No. 6, June 1995, 3 pgs.
	C88	Search Report for PCT/US02/00896; October 4, 2002; 7 pgs.
	C89	Copending U.S. Patent Application Serial No. 09/708,339, filed November 8, 2000, "Method And Apparatus For Operating A PLL With A Phase Detector/Sample Hold Circuit For Synthesizing High-Frequency Signals For Wireless Communications" (Sila:035C1)
	C90	Copending U.S. Patent Application Serial No. 09/999,702, filed October 31, 2001, "Method And Apparatus For Synthesizing Dual Band High-Frequency Signals For Wireless Communications" (Sila:060C1)
	C91	Search Report for PCT/US02/00895; November 11, 2002; 6 pgs.

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Exam. Init.	Ref. Des.	Citation		

Examiner:

Date Considered:



Received in the U.S. Patent and Trademark Office: In re Application of: Tod Paulus et al. Notch Filter For DC Offset Reduction In Radio-Frequency Apparatus and Associated Methods Serial No. 10/075,099; Filed: 2/12/02

Enclosed herewith:

- 1. Supplemental Information Disclosure Statement
- 2. PTO Form 1449
- 3. Cited references A49-A51 (copies not provided)
- Our return postcard.

SILICON LABORATORIES, INC. – SILA:097 Mailed: 3 (6 - 0 3 MRP/mw

Received in the U.S. Patent and Trademark Office:
In re Application of: Tod Paulus et al.
Notes Eller For Do Office Bodinston in Bodins. Notch Filter For DC Offset Reduction In Radio-Frequency Apparatus and Associated Methods
Serial No. 10/075,099; Filed: 2/12/02

1. Supplemental Information Disclosure Statement

- 3. Cited references A49-A51 (copies not provided) 2. PTO Form 1449
- 4. Our return postcard.

SILICON LABORATORIES, INC. - SILA:097
Mailed: 8.26.03
MRP/mw



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: TOD PAULUS ET AL.

Filed:

FEBRUARY 12, 2002

For:

NOTCH FILTER FOR DC OFFSET REDUCTION IN RADIO-

FREQUENCY APPARATUS AND ASSOCIATED METHODS

Serial No.:

10/075,099

Group Art Unit:

2681

Examiner:

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Atty Dkt:

SILA:097

Pursuant to 37 C.F.R. 1.8, I certify that this correspondence is being deposited with the U.S. Postal Service in a first class, postage prepaid envelope addressed to: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313 on the date

below

Date

Name

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P. O. Box 1450 Alexandria, VA 22313

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, it is respectfully requested that this Supplemental Information Disclosure Statement be entered and the document(s) listed on attached Form PTO-1449 be considered by the Examiner and made of record.

In accordance with 37 C.F.R §§ 1.97(g),(h), this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Supplemental Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be

with the filing of this Supplemental Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is hereby authorized to deduct said fees from Deposit Account No. 10-1205/SILA:097.

Per 37 CFR 1.98(d), no copies of references A49-A51 have been provided, as copies of these references are of record or being submitted in one or more of co-pending U.S. Patent Application Serial Nos. 09/821,340 filed on March 29, 2001, which is entitled "Digital Interface In Radio-Frequency Apparatus And Associated Methods" and 09/821,342 filed on March 29, 2001, which is entitled "Partitioned Radio-Frequency Apparatus And Associated Methods" and one of which is relied upon by the present application for an earlier effective filing date under 35 U.S.C. Section 120.

Applicant respectfully requests that the listed document(s) be made of record in the present case.

Respectfully submitted,

Maximilian R. Peterson

Reg. No. 46,469

Attorney for Applicant

O'KEEFE, EGAN & PETERMAN, LLP 1101 Capital of Texas Highway South Building C, Suite 200 Austin, Texas 78746 (512) 347-1611 FAX: (512) 347-1615

Enclosures